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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,999	03/12/2001	Matthijs Hendrik Keuper	PHNL 000103	8882

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PATENT LAW GROUP LLP
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EXAMINER

GILMAN, ALEXANDER

ART UNIT	PAPER NUMBER
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2833

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/803,999

Applicant(s)

KEUPER, MATTHIJS HENDRIK

Examiner

Alexander D. Gilman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14,16,17 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14,16,17 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 14, 16, 17, 28, 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al.

With regard to claim 14, Johnson et al (US 6,373,188) disclose a light-emitting device comprising:

a semiconductor light emitting diode (22, 20) capable of emitting light of a first wavelength, the semiconductor light emitting diode having a light-emitting surface, and

a plurality of regions of phosphor (60 or 30; col. 7, lines 52-54) provided on the light-emitting surface (col. 5, lines 8-14), wherein:

at least some of the plurality of regions of phosphor (the phosphor segments on a columnar light-emitting surface) are capable of converting light of the first wavelength to visible light of a second wavelength;

the plurality of regions of phosphor form a pattern (Fig. 2); and

the plurality of regions of phosphor (Fig. 3, r.n.82, 82) are separated by regions of the light-emitting surface without phosphor (alternatively, r.n. 60, 60 separated by r.n. 65)

With regard to claim 16, Johnson et al disclose that the regions of the light-emitting surface without phosphor are at least partly covered with a light-transmitting layer (83).

With regard to claim 17, Johnson et al disclose that a thickness of the light-transmitting layer is substantially the same as a thickness of phosphor in the regions of phosphor.

With regard to claim 28, Johnson et al disclose the plurality of regions of phosphor forming a chessboard pattern and the plurality of regions of phosphor being, separated by regions of the light-emitting surface without phosphor.

With regard to claim 30, Johnson et al disclose that the thickness of the phosphor layer (30) is such that all the light of the first wavelength incident on the phosphor layer is converted to light of a different wavelength.

With regard to claim 31, Johnson et al disclose that others of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a third wavelength (since more than one visible phosphor disposed in segments can be utilized)

With regard to claim 32, Johnson et al disclose that at least one opticalement (36) for mixing the emitted light of the first and the second wavelength.

Claims 14,16, 17, 28, 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Vriens et al.

With regard to claims 14, 29 Vriens et al (US 4,822,144) disclose a light-emitting device comprising:

a semiconductor light emitting diode (col. 3, lines 51-52, since LED is a semiconductor device that emits narrow-spectrum light) capable of emitting light of a first wavelength, the semiconductor light emitting diode having a light-emitting surface, and

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a plurality of regions of phosphor (for example regions R , G,B) provided on the light-emitting surface (the surface of 10), wherein:

at least some of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a second wavelength;

the plurality of regions of phosphor form a pattern (any regularly repeated arrangement); and

the plurality of regions of phosphor (for examples , R -regions) are separated by regions of the light-emitting surface without phosphor (spaces between R and G phosphor segments)

With regard to claim 16, Vriens et al disclose that the regions of the light-emitting surface without phosphor are at least partly covered with a light-transmitting layer (13).

With regard to claim 17, Vriens et al disclose that a thickness of the light-transmitting layer is substantially the same as a thickness of phosphor in the regions of phosphor.

With regard to claim 28, Vriens et al disclose the plurality of regions of phosphor (R,G,B) forming a chessboard pattern and the plurality of regions of phosphor being separated by regions of the light-emitting surface without phosphor(spaces between R and G phosphor segments)

With regard to claim 30, Vriens et al disclose that the thickness of the phosphor layer is such that all the light of the first wavelength incident on the phosphor layer is converted to light of a different wavelength.

With regard to claim 31, Vriens et al disclose that others of the plurality of regions of phosphor are capable of converting light of the first wavelength to visible light of a third wavelength (since R,G,B phosphors are utilized)

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With regard to claim 32, Vriens et al disclose that at least one optical element (14) for mixing the emitted light of the first and the second wavelength.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al in view of Duggal et al.

Johnson et al discloses all of the limitations except for producing white light.

Duggal et al (US 6,294,800) disclose (col. 2, lines 13-29) that converting the LED radiation energy with some phosphor compositions produces substantially white light.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the Johnson et al with the phosphor compositions, as taught by Duggal et al, to achieve visual efficiency of the device.

Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Vriens et al in view of Duggal et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1/31/07

Alex Gilman

ALEXANDER GILMAN
PRIMARY EXAMINER